Abstract

A gas turbine plant, wherein a plurality of first gas turbines positioned coaxially with compressors and a second gas turbine positioned coaxially with a generator are rotated by a coolant heated by heat energy provided by the fission of a coated particle fuel. A flow in a bypass passage is controlled by controlling the opening of bypass valves of (n-1) in quantity which bypass the first gas turbines on up to (n-1) shafts in starting. Accordingly, the rotational speeds of the first gas turbines on up to (n) shafts are increased to a rated rotational speed in order starting at the initial stage on the upstream side of a high temperature gas-cooled reactor toward the lower stage for each shaft.